

### Abstract

The object of the present invention is to automatically adjust the synchronization of an amplitude signal and a phase signal in a transmitting apparatus such as polar modulation transmitting apparatus.

A polar signal producing circuit (101) produces signals corresponding to the amplitude and the phase of a transmitting modulated wave from an input signal and multiplies the amplitude signal by the phase signal by a multiplying circuit (107) to amplitude modulate a phase-modulated wave to produce a transmitting modulated wave and radiates this transmitting modulated wave as radio wave from an antenna (108). An amplitude/phase detecting circuit (109) detects an amplitude signal and a phase signal from the input of the multiplying circuit (107) and the input of a phase-modulated signal producing circuit (106). A delay difference computing circuit (110) computes a correlation function between the amplitude signal produced by the polar signal producing circuit and the amplitude signal detected by the amplitude/phase detecting circuit and a correlation function between the phase signal produced by the polar signal producing means and the phase signal detected by the amplitude/phase detecting means, and computes a delay difference between the amplitude signal and the phase signal from maximum values of the respective correlation functions. Then, a timing adjusting circuit (102) adjusts the delay time between the amplitude signal and the phase signal on the base of the computed delay difference.